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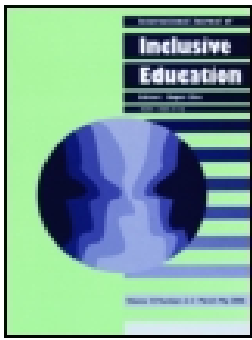
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Turning social inclusion into exclusion during collaborative between students with and without SEN

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ABSTRACT

Creating opportunities for meaningful social relationships between through collaborative learning has been suggested to facilitate all students' social inclusion. However, little attention has been given to the interaction processes leading to unsuccessful knowledge co-creation in mixed-ability peer groups including students with and without special educational needs (SEN). This study addressed this research gap by conducting multimodal conversation analyses of the social exclusion during group work of students with and without SEN, and how the students with SEN responded to their positioning as unequal learning partners. The results were based on video-recordings of 24 lessons involving fifth graders in Finnish school spaces featuring open and flexible learning environments. The results showed that although the students with SEN performed relevant on-task initiations, their contributions were misaligned by ignoring, denying, invalidating their contributions, manipulating shared learning materials, or downgrading their status as help givers. Despite this, students with SEN continued to orient toward collaborative working by persistently initiating joint activities, negotiating their task performance and struggling to ensure their right to contribute. The study underlines the importance of instructing all students to create a warm learning community in which every student has equal rights to participate and to be positively recognised.

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Inclusive education; students with SEN; collaborative learning; open and flexible learning environment; learning interaction; exclusion

Introduction

Successful inclusive education aims at the social inclusion of all students, that is, their social acceptance by peers and ability to form friendships with them (Juvonen et al. 2019) as well as their equal access and right to contribute to all classroom activities (Bates and Davis 2004). However, while every student has a right to be involved in a mainstream school (UNCRPD Art 24 2008), the research results concerning the social

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inclusion of students with special educational needs (SEN) in mainstream classrooms are contradictory. On one hand, students without SEN have been reported to have relatively positive attitudes towards their peers with SEN (de Boer, Pijl, and Minnaert 2012; Del-l'Anna, Pellegrini, and Janes 2021). On the other hand, students with SEN have been found to be more peripherally involved in peer groups and less accepted by peers than students without SEN (Petry 2018; Pinto, Baines, and Bakopoulou 2019; Vetoniemi and Kärnä 2021; Wahl et al. 2022).

Academic status norms in the classroom as well as the homophily effect seem to influence students' friendship selection, and both students with and without SEN seem to choose their friends based on similar levels of academic performance (Hoffman et al. 2021; Laninga-Wijnen et al. 2019). In addition, students with SEN have been reported to be less popular as work partners than their peers without SEN (Pinto, Baines, and Bakopoulou 2019), and some students have expressed fear that the presence of students with SEN could weaken their own learning results (Del-l'Anna, Pellegrini, and Janes 2021). If students behave contrary to the prevalent social norms and expectations, they are more likely to be excluded from peer groups (see de Boer, Pijl, and Minnaert 2012; Juvonen et al. 2019; van Mieghem et al. 2020). In addition, if students assess their classrooms as having a strong performance goal orientation and a focus on students' competence, they are less likely to accept working with peers with SEN (Law et al. 2017).

Regarding the voice of students with SEN, they consider their peers to be significant sources of support and school enjoyment (Correia, Forlin, and Sio 2022), but they seem to experience less social participation (Schwab et al. 2015) and a less positive classroom behavioural climate than other students in the same classroom (Hoffmann et al. 2021). The experiences of social exclusion are stressful for them (Correia, Forlin, and Sio 2022; de Leeuw, de Boer, and Minnaert 2019), and fear of exclusion may lead to shame, causing them to hide their SEN status from others or prevent them from joining peer groups including students without SEN (Correia, Forlin, and Sio 2022; Riitaoja, Helakorpi, and Holm 2019). Students with SEN mainly utilise externalising or distancing approaches to resolve social problems, although they would prefer that their peers without SEN would have been initiators in stopping their exclusion (de Leeuw, de Boer, and Minnaert 2019).

It has been suggested that creating opportunities for meaningful social relationships between students through various peer learning practices is crucial for strengthening all students' academic and social participation in classroom activities (Morningstar et al. 2015; Pinto, Baines, and Bakopoulou 2019; van Mieghem et al. 2020; Vetoniemi and Kärnä 2021). Although there is an ever-growing number of studies on peer learning practices and their effects on students' learning outcomes, less attention has been paid to describing what actually happens during collaborative group work (Riese, Samara, and Lillejord 2012). Our aim is to address this gap in the literature by investigating video-recorded observations of elementary school students' collaboration in mixed-ability groups, where students with SEN-like learning and/or behavioural challenges are working with students without SEN. The episodes were video-recorded in classrooms with open and flexible learning spaces, where the physical layout of the learning space supported inclusion and the use of flexible grouping.

Collaborative learning as a context for social inclusion and exclusion

Collaborative learning can be considered as one of the sub-concepts and methods of utilising peers in instruction under the umbrella term of peer learning (Riese, Samara, and Lillejord 2012). Broadly, the concept of collaborative learning refers to any situation in which at least two persons aim to learn something together (Dillenbourg 1999). In practice, collaborative learning is enacted through socially shared regulation of group processes and students' joint cognitive activities and knowledge-building discourse, which are expected to activate certain learning mechanisms (Dillenbourg 1999; Schoor, Narciss, and Körndle 2015). The basic requirements for the full realisation of the collaborative potential of groups are mutual recognition and acceptance, students' positive interdependence, task-focussed interactions and individual accountability (Forslund Frykedal and Hammar Chiriatic 2018).

It has been suggested that collaborative learning is mediated by, for instance, verbal and non-verbal language, material resources (e.g. papers, tablets, shared folders), socially set tasks and roles as well as peers' relational knowledge (Riese, Samara, and Lillejord 2012). One of the presumptions of collaborative learning is that students have access to different learning resources and prior knowledge about the learning contents than their peers (Weinberger, Stegmann, and Fischer 2007). In addition, teachers play a significant role in supporting collaborative learning by providing the optimal conditions for students' collaborative working. This refers to teachers' readiness to plan in advance as well as to observe and facilitate students' interaction during collaboration (Kaendler et al. 2015) instead of only assessing group productivity or cognitive aspects of learning (Le, Janssen, and Wubbels 2018). Further, teachers have a responsibility to construct heterogeneous groups and prepare appropriate tasks for them (Zubiri-Esnaola et al. 2020). Supervising students' collaborative working also requires delegating authority to students, entrusting them to help and ask for help from each other (Forslund Frykedal and Hammar Chiriatic 2018) as well as inviting them to verbalise their thinking and to elaborate on their explanations when experiencing epistemic conflicts (Webb et al. 2008).

Students' various competence statuses represent both an opportunity for and an obstacle to students' collaboration. At its best, the heterogeneity between students and their learning readiness promotes students' academic learning (Moser Opitz et al. 2018; Park and Lee 2015) and participation (Zubiri-Esnaola et al. 2020) and increases their perspective-taking ability (Park and Lee 2015) and solidarity towards each other (Zubiri-Esnaola et al. 2020). According to Kim (2019), learning occurs when students make collaborative efforts to achieve a mutual understanding by orienting to one another's potential lack of knowledge. This appears in how students ask for advice and give help with tasks (Forslund Frykedal and Hammar Chiriatic 2018; Zubiri-Esnaola et al. 2020), present knowledge check questions (Kim 2019), claim or check understanding (Kim 2019), explain the learning contents and give feedback to one another (Forslund Frykedal and Hammar Chiriatic 2018; Zubiri-Esnaola et al. 2020) or present definitions and negotiate meanings (Kim 2019). In addition, planning together how to perform the task and how to divide the individual and collective responsibilities of group members can be considered a sign of collaborative working (Forslund Frykedal and Hammar Chiriatic 2018). Initiating joint activities through proposals may be more

likely to lead to collaborative working than unidirectional announcements, which are more likely to lead to asymmetrical group work directed by the initiators (Kämäräinen et al. 2020).

However, there is also a risk that lower-achieving students' efforts will be ignored by high-status peers, that their initiations will be underestimated and that they will have fewer possibilities than those peers to contribute to common work (Le, Janssen, and Wubbels 2018). Kämäräinen et al. (2019) argued that more knowledgeable students might strengthen the epistemic imbalance between themselves and less knowledgeable peers by leading the epistemic work through questions and evaluations in ways that resemble practices in traditional teacher-led lessons. As a result of unequal participation in the co-construction of knowledge, lower-achieving students might stop trying, withhold their responsibility for collaborative work and be driven to freeriding during the group work (Le, Janssen, and Wubbels 2018). In addition, some group member's challenging behaviour has been found to hamper collaborative interaction, weaken group cohesion and lead to disapproval by peers, resulting in an escalation of confrontational behaviour during group work (Desbiens, Levasseur, and Roy 2016). Students may also orient to their peers' relational knowledge during the group work. Thus, their collaboration would be regulated by their shared history and the established ways in which they have typically interacted as well as their expectations of peers' characteristics (Riese, Samara, and Lillejord 2012).

In summary, although it has been argued that peer support and peer learning practices are crucial to facilitate social inclusion in the classroom, previous research results show that merely sharing a physical space (e.g. placement in the same classroom environment) (Petry 2018; Vetoniemi and Kärnä 2021) or providing students possibilities for collaborative group work do not automatically result in the social inclusion of all students. In particular, lower-achieving students are at risk of being ignored or subordinated during group work. Therefore, our interest is in situations in which collaborative group work between lower-achieving students with SEN and average- or higher-achieving students without SEN does not proceed as planned and social inclusion is hampered. This study is based on the principles of conversation analysis (CA) and its supposition that different categories, such as SEN status, are collaboratively and situationally negotiable in the ongoing process of interaction (Ten Have 1999). Thus, we do not think that the positions of students with SEN would remain the same (e.g. as subordinate) from one conversation to another – which our data confirm – but in this study we focus on the episodes where students with SEN are excluded from full-group membership. Interactional information from these kinds of unsuccessful cases is of great importance (Riese, Samara, and Lillejord 2012), as these cases have not been sufficiently studied. Such information could reveal the potentially vulnerable and critical incidents in collaborative learning in which teachers could intervene to facilitate all students' social inclusion in inclusive classrooms. Next we will present our data in more detail, leading to the following research questions: (1) How is the social exclusion of students with SEN constructed during collaborative group work between students with and without SEN? (2) How do students with SEN negotiate their positioning as unequal learning partners?

Methodology

Data and study context

The study was based on 24 h of video-recorded classroom interactions of fifth graders in one public Finnish basic education school. The data were collected during five school days, each of which was five hours long. The researchers videotaped all interaction in classroom, kept a diary and interviewed teachers. Video-recordings of students' everyday interactions enabled an analysis of exclusion practices. The ethnographic data were utilised as contextual background information for this study. The total number of 11–12-year-old students was 57 (25 females and 32 males). The school employed team teaching, where students studied with guidance from two classroom teachers and one special education teacher. The video data were collected using multiple GoPro cameras, which were located in different parts of the learning environment. The movable small cameras were easily relocated in the space. The data were part of a larger research project (Anonymous, 2018–ongoing), the aim of which is to study the effects of diverse physical school spaces on learning interactions and how students shape spaces for learning interaction. One aim of the research project has been to investigate how school design shapes and is shaped by the practices of inclusive education.

Prior to the data collection, ethical approval was received from the University of (anonymised) ethical board. Permissions to participate in the study were requested from the relevant municipalities, participating teachers, children and their custodians (s). All the participants were informed of the voluntary nature of the research and their ability to withdraw at any stage. The research protocol followed the ethical guidelines and legislation of the University of (anonymised) as well as ethical principles for researching children (Alderson and Morrow 2020). To ensure confidentiality, all participant identification information was omitted when reporting. The students were given pseudonyms in the transcriptions. The original language of the transcriptions was Finnish, but they were translated into English and checked by a language consultant.

The physical layout of this school supported inclusion. Specifically, the school featured open and flexible spaces with movable furniture and acoustic curtains, which made it possible to include all the students in the same space and facilitated different student groupings. There were also smaller separated classrooms in the school. The design of the school allowed grouping students with SEN flexibly into different peer groups with students without SEN and staff, including class teachers, special education teachers and school assistants, enabling smooth movement within and between spaces. However, the students with SEN were only partially integrated into mainstream teaching, which meant that they also had their own group of 12 students who studied partially in their own class in separate spaces designated for them. Even so, students with and without SEN studied together whenever possible in versatile and open spaces regardless of the subjects and especially in lessons consisting of collaborative and project-based learning activities. Although Finland has been committed to the Salamanca statement since 1994, these kinds of arrangements are typical in the Finnish education system. Only 32 per cent of the recipients of special support study in a general education group most of the time, whereas 34 per cent of them study as part of a general education group or a special education group (Official Statistics Finland 2021), as was the case in this study.

Analysis

Social exclusion from peer relationships always occurs through interaction. Therefore, we applied a multimodal conversation analyses (CA) in this study, which focusses on the details of moment-by-moment interaction and uncovering the ways in which multimodal resources, including language, body positions, movements, tactility and the use of artefacts, are used in building interaction (e.g. Goodwin 2013; Mondada 2016; 2019). CA is based on the notion that interaction is a collectively organised event and employs turn-by-turn analysis to examine how people organise and manage social interaction and activities (e.g. Schegloff and Sacks 1973). The use of CA helped us to make the exclusion processes visible in the data. The video-recordings and transcriptions also allowed both authors to review the data many times and discuss their preliminary observations. Strong data-driven analysis as well as the joint analyses and reporting helped us to reach shared understandings without conflicting interpretations.

In practice, after the first author had familiarised herself with the data by identifying the sequences in which social inclusion in peer group was hampered in some way and students with SEN were not positioned as equal learning partners, both authors watched and discussed those episodes. Our unit of analysis was an episode, which generally consists of one or more sequences, in which a student initiates an action and the other(s) react(s) to it (Sidnell and Stivers 2012). In total, we identified 18 episodes of social exclusion of students with SEN during students' collaborative work in 19 h of data. The selected episodes were transcribed regarding the quality of talk and embodied actions using the Jefferson (2004) notation system (see Appendix 1).

When operationalising social exclusion in our analysis, our analytical concept was (mis)alignment. Alignment is a key interactive practice for successful co-operative interaction, and it meant that students showed a willingness to support the activity in progress by showing attentiveness, asking questions or recognising others' work (see Stivers 2008). In practice, alignment was demonstrated through appropriate responses to questions or through the use of continuers (such as 'mmm', 'mmhh') to show attentiveness to peers' narrations (e.g. Rendle-Short, Cobb-Moore, and Danby 2014). In contrast, misalignment occurred when actions that disrupted the ongoing activity were produced, such as inappropriate comments, not paying attention during the turns of others or an abrupt changing of topic (Rendle-Short, Cobb-Moore, and Danby 2014; Stivers 2008). In addition to verbal acts, misalignment might manifest in non-verbal actions, such as turning away.

When reporting our findings, we chose three focus students with SEN, who obviously seemed to be targets of exclusionary acts and were misaligned by students without SEN. Then, we selected one representative episode of becoming misaligned involving each focus student to illustrate the variety of exclusion practices and how the student positioned themselves during the collaborative group work. Thus, the selected episodes presented in this study are not the only cases in which misalignment and exclusion were constructed.

Results

We approach challenges of social inclusion in students' mixed-ability collaborative groups by focussing on how the collaborative efforts of three focus students with SEN

(Laura, Pekko and Juuso) become misaligned during collaborative group work. In all three cases, students without SEN managed the contributions of students with SEN by expressing their epistemic or deontic authority, that is, their right to know better regarding the task structure or task contents or to determine the order and timing of performing the task. In addition to data extracts, frame grabs illustrate how the participants' bodies are positioned in relation to one another, as body positioning can also be a salient feature of exclusion.

CASE 1 Misalignment of initiations

We begin our analysis by focussing on how Laura's initiations during group work become misaligned, leading her to experience difficulties in participating in collaborative activity. Laura is in a group of four students: herself, Reetta, Maija and Miia. The aim of the learning task is to compare the sizes of their feet and hands. Comparing sizes of body parts requires not only cognitive action but also bodily proximity in the border of others' body territory. During the group task, Laura has positioned herself as a full group member by sitting in the circle in which the other group members are sitting ([Figure 1](#)), but the other students have not paid attention to her. In this first extract, Laura initiates an idea, which is treated as inappropriate for the task and becomes misaligned. Throughout the interaction unit, Laura does not become a ratified and recognised group member – instead she becomes someone who does not need to be considered at all (Goffman 1953).

Reetta and Maija, who sit next to each other, start to compare their hands. Laura is also sitting on the sofa and looks occasionally at Miia. Miia sits on the other side of the sofa and reads the instructions of their learning assignment.

- 01 **Laura:** ((Turns and moves her body towards Miia.))
- 02 **Laura:** Well:h I'm gonna ask from you. What colours are my eyes and hair?
- 03 **Miia:** ((Turns towards Laura.)) = >It was not supposed to do that yet <.
- 04 <First>. ((Turns her body towards Reetta and Maija))
- 05 **Laura** ((Turns to Reetta and Maija who are comparing hands))
- 06 ((Gazes at Maija and stretches her hand for comparing))
- 07 **Reetta and Maija:** ((Talking to each other and comparing hands))
- 08 **Laura:** ((Stretches her hand away))

When the episode starts, no one is watching Laura, so Laura must first solicit their attention by moving closer to Miia and then offering a verbal marker prefix: 'Well:h, I'm gonna ask from you'. With this socially appropriate prefix and embodied movement, she reserves the space for her next action and then poses a question for Miia: 'What colours are my eyes and hair?' (line 2). At the same time Reetta and Maija have started to compare the sizes of their hands. Miia does not align with Laura's initiative. Instead, she treats it as inappropriately timed with the task, saying, 'It was not supposed to do that yet' (line 3). Miia also turns her body towards Reetta and Maija, which also indicates Miia's unwillingness to begin the assignment with Laura.

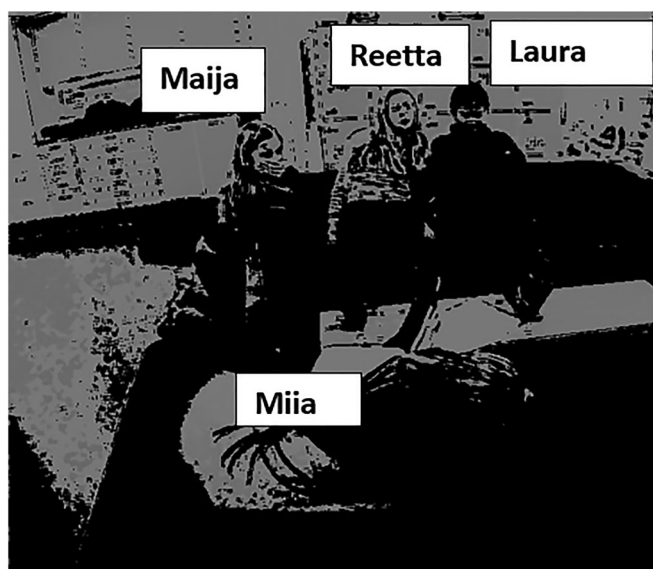


Figure 1. Miia, Maija, Reetta and Laura performing a body comparison learning task.

After Miia's refusal, Laura tries to engage with Reetta and Maija by stretching out her hand to compare it with others as required in the learning assignment. Although Laura's second embodied initiative is in line with the task at hand, neither Reetta nor Maija respond to Laura, and after becoming misaligned she withdraws her hand. Thus, Laura does not become a ratified group member, which is evident both in verbal and nonverbal actions. Laura is twice rejected, and her equal right to participate is downplayed by the other group members, even though Laura's actions can be seen as socially relevant. While the rejection of Laura's first initiation was justified by its incorrect timing, in conversation, every sequential turn represents both in principle and in practice a possibility to choose subsequent actions. Therefore, instead of refusing Laura's initiative, Miia could have also continued the task with Laura. What is also noteworthy in both initiations is that since the learning activity required the reciprocal action of comparing body parts, Laura could not have accomplished the learning task by herself.

CASE 2 Misalignment of expertise

The second extract is from a situation when three students, Tiia, Milla and Pekko, are making a shared presentation of Estonia. They all have laptops, and they use the Google slide format for their task. This type of platform allows the participants to simultaneously view and edit others' slides and thus to engage in group work together even if they are not in the same physical space. Tiia and Milla are sitting close to each other in a side-by-side arrangement occupying one chair ([Figure 2](#)), and Pekko has his own chair opposite them. This spatial configuration strengthens the alliance that Milla and Tiia create during the interaction.

We cannot know for sure whether the alliance between two of the group members is due to Pekko's status as a student with SEN or to the significance of gender for children of this

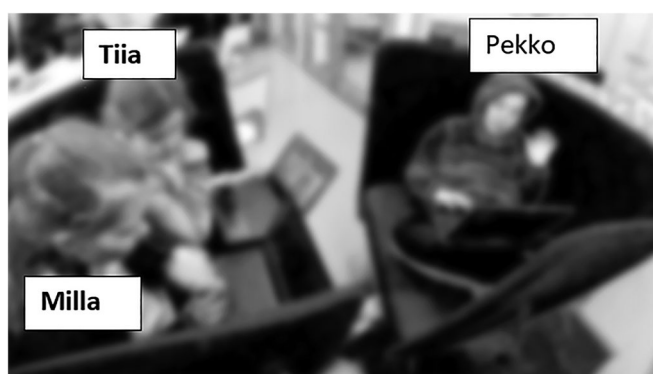


Figure 2. Milla, Tiia and Pekko doing a shared presentation of Estonia.

age, as Pekko is the only male group member. However, the data also include an episode where Pekko was not invited or welcomed in a group of male students without the teacher's help in a situation where students had the opportunity to independently form small groups. In addition, Pekko's status as a student with SEN becomes evident and is reproduced in the following episode, when the other members treat him as less knowledgeable while positioning themselves as more knowledgeable. Before the beginning of this extract, Milla and Tiia have accused Pekko of locating his slide in the wrong place and finally deleting it (see anonymous 2022). The following episode begins just two minutes after that.

- 01 **Pekko:** Now I did a new slide *((raises his left hand))*
- 02 **Pekko:** *((looks down and pulls the hood over his head and face))*
- 03 **Milla:** Don't write about that (.) agriculture *((shakes her hands))*
- 04 **Pekko:** No I'm writing about Estonian (.) artists *((falling back in his*
- 05 *chair; does not touch the keyboard))*
- 06 (19 seconds)

This episode begins when Pekko announces that he has made a new slide by raising his left hand as a form of announcement. This announcement could be interpreted as Pekko's redemption (Goffman 1971, 113) or as an attempt to repair the social situation due to his previous act of putting his slide in 'wrong', for which he has been held morally accountable by Milla and Tiia. It also illustrates Pekko's willingness to reach a shared understanding of the group work, which is also strengthened by the fact that he had previously asked for permission from Milla and Tiia to prepare a slide about Estonian music. However, Pekko has a defensive facial expression and is partly covering his face with his hood, preparing himself for the upcoming criticism, which represents a continuation of his previous interactional encounters. Immediately after Pekko's announcement, Milla rises from her chair and shakes her hand towards Pekko, saying, '*Don't write about that agriculture*'. This expression, which verbally and corporeally forbids Pekko from making his slide, is produced as an urgent haptic action from a distance – controlling and remotely stopping Pekko's hand from doing anything with the laptop. Pekko's embodied response to Milla's hand shaking is to fall back in his chair while continuing the conversation by

keeping his hand raised off the keyboard, demonstrating his innocence. Pekko also responds by producing an affirmative answer (*'no'*) to Milla's denial and correcting her by saying that he is writing about the Estonian artists. After this, Milla orients back to her own screen. The beginning of the extract shows how the other group members take the deontic authority (Stevanovic and Peräkylä 2012) to control Pekko's work, and thus his equal right to participate in creating the presentation is under negotiation.

- 07 **Tiia:** Well Pekko can you move picture on slide?
- 08 **Pekko:** I can give it to me ((*stretches his hand and has convincing*
09 *gesture*))
- 10 **Tiia:** hhh. Milla needs help
- 11 **Pekko:** Well (.) I can add it
- 10 **Milla:** What?
- 11 **Pekko:** Well I can teach
- 12 **Milla:** What?
- 13 **Tiia:** Yes=
- 14 **Pekko:** =That picture ((*moves close to Milla*))
- 15 **Milla:** ((*stares at Pekko with astounded gesture*))
- 16 **Pekko:** ((*shows Milla how to move the picture*))
- 17 **Milla:** Well yes I have done this before by the way ((*makes a 'hang it*
18 *all' movement with her hands*))
- 19 **Pekko:** Well yes I have done this before by the way ((*leaves his laptop,*
20 *stands up and leaves*))

However, 19 s later, Pekko has the chance to show his competence and epistemic authority, when Milla and Tiia wonder how to move pictures in their slides. Tiia decides to involve Pekko in the activity by asking (line 7), '*Can you move picture on slide?*' Pekko replies immediately in Finnish, '*I can*', and continues in English, saying, '*give it to me*' while simultaneously stretching out his hand in order to take Tiia's laptop. This language switching in a very monolingual Finnish-speaking environment can be interpreted as a resource through which Pekko softens his directive when the laptops are situationally owned by another person, and thus getting the other's device is a kind of territory crossing. Pekko also gazes at Tiia with a convincing gesture. However, stretching one's hand when ordered to get something also indicates that the asker may not receive it.

Tiia does not give her laptop, clarifying that it is Milla who needs help. Although Tiia and Milla have recently discussed the topic, and they are all sitting close to each other, Milla indicates she is unaware when Pekko says that he can do what is needed and stretches his hand toward Milla's laptop (line 11). However, Pekko does not take Milla's what-question as a literal mark of hearing or understanding the problem. Instead, he makes the next move by mitigating his original offer to do the task in favour of Milla: '*Well I can teach*'.

Again, Milla shows that she is still unaware of the situation and asks, ‘*What?*’, whereas Tiia agrees to Pekko’s suggestion. Then, Pekko moves towards Milla in order to demonstrate how to move the picture on the screen and makes an embodied movement, indicating that he is breaking Milla’s personal space by coming too close to her.

In response, Milla tries to step back from Pekko and illustrates her action with an astounded gesture. However, Milla’s reaction does not hinder Pekko from providing peer support, and during the next eight seconds he demonstrates how to move pictures on slides on Milla’s screen. When Pekko returns to his seat, Milla makes a kind of ‘hang it all’ hand movement and says that what Pekko just showed her was something she already knew: ‘*Ah yes I have done this sometimes before by the way*’. This could be interpreted as a denial of Pekko’s previous epistemic priority to know more about computer programmes and a downgrading of Pekko’s contribution to helping Milla. In response, Pekko leaves his laptop, stands up and echoes what Milla just said in a rascally tone of voice. He also makes a sardonic gesture towards Milla and Tiia and walks away. All of this can be interpreted to mean that Pekko does not take Milla’s turn seriously and closes the sequence action. Pekko’s epistemic superiority and competence and knowledge about the technology, which Milla and Tiia lack, thus serve as a resource allowing him to become involved in the common project. However, the positions of the students seem to be somewhat entrenched, and consequently Pekko’s epistemic authority is not aligned with Milla.

CASE 3 Misalignment of equal contribution

In the third extract, Juuso is working in a peer group with Mira and Riina (Figure 3). Similar to the previous example, the members use Google slides and can look at and



Figure 3. Juuso, Mira and Riina negotiating about their presentation.

edit one another's slides. They have decided that everyone will create individual slides for their shared presentation. In the following extract, Juuso's contribution to the group work is deleted by the other students. Just before the following extract, Juuso has approached Mira by touching Mira's hair. The head is a very sensitive part of a body and is usually touched by others in intimate relationships, and thus Juuso's initiative towards Mira can be seen as an indication that Juuso has something remarkable to say. Mira turns her head quickly towards Juuso but does not gaze at him, and so she does not establish any copresence with Juuso (see Pillet-Shore 2018). After his touch, Juuso sits behind Mira and Riina on the sofa, and the following episode begins.

- 01 **Juuso:** ((says to Mira)) Don't sabotage my slide!
- 02 **Mira:** ((takes a look at Juuso and turns her gaze to her screen))
- 03 **Riina:** Okay; We don't do anything anymore
- 04 **Juuso:** I warned you
- 05 **Riina:** ((goes to Juuso and looks at Juuso's screen))
- 06 **Riina:** Yeah right *you haven't written anything about that yeah*
- 07 ((shakes her hands very fast))
- 08 **Juuso:** I warned do:n't sabotage
- 09 **Mira:** I'm not sabotaging but that but-
- 10 **Juuso:** (shakes his head) You won't change it=
- 11 **Riina:** =Yes probably have delete this
- 12 **Juuso:** ((takes his laptop and leaves))
- 13 **Riina:** ((after 12 seconds Riina gets the teacher, Tea))

After returning to his seat, Juuso says to Mira, '*Don't sabotage my slide*'. This implies that Mira has worked with Juuso's slide in the Google slides environment. Juuso's choice of the word '*sabotage*' invokes an act of destruction (Goffman 1971, 258) and a territory breach and makes Mira morally accountable for her action. Mira does not reply verbally, but Riina's turn (*Okay, we are not doing anything anymore* in line 3) does not deny or counter the sabotage of Juuso's slide; instead, it accepts the moral responsibility of the action (Goffman 1971). The use of the first person plural 'we' also includes Riina as a contributor to Juuso's slide and invokes the polarised categories *you* and *us*, which is an initiation of exclusion (Niemi and Bateman 2015). Juuso does not, however, acquiesce to his positioning but rather repeats a threat of negative consequences.

After this, Riina goes to Juuso to look at his screen and makes a judgement that Juuso has not done anything relevant to what they had previously agreed upon (line 6). Riina's verbal action is laminated (Goodwin 2013) with affective expressions of shaking hands and a creaky tone of voice. Juuso is not orienting towards Riina; instead, he again targets Mira for attempting to 'sabotage' Mira. At this time, Mira replies to Juuso, and with her statement '*I'm not sabotaging, but*' she denies that her current action is sabotage. Juuso takes ownership of his slide and says, '*You don't change it*', which is a clear

interdiction. Riina continues by telling Mira that they have to delete more of Juuso's contribution.

- 14 **Tea:** Yes (.) okay:
- 14 **Riina:** Juuso was searching for information about this
- 15 **Riina:** ((*shows her screen to teacher*))
- 16 **Riina:** And then we asked him to filter it
- 17 **Tea:** And then he lost his nerves, that's what you say
- 18 **Riina:** Yes and because I don't even know what this means ((*shows from*
- 19 *her screen*))
- 20 **Tea:** ((*teacher reads aloud what Juuso has written.*))
- 21 **Tea:** We'll (1.0) yes quite well concluded. Juuso is in the corner
- 22 *near the physics room*
- 22 **Riina and Mira:** ((*leave to get Juuso*))

As in example 2, the student with SEN finally leaves the group, evidently because there is disagreement in the group or because he has become misaligned. After 12 s, Riina seeks mediation from a teacher, who has not been present or seen what has happened. When the teacher joins the situation, Riina shows her the Google Drive slides as proof of Juuso's action, and the teacher tries to determine how the problematic situation occurred. The teacher's question on line 17 refers to the activity: '*and then he lost his nerves, that's what you say?*' The question is not only an attempt to clarify the problematic incident in the group but also downgrades Juuso's status in the peer group, as he is described as a person who lost his nerve. However, the teacher does not confirm Riina's judgment about the irrelevance of Juuso's work, instead crediting Juuso's contribution to the slide. Without giving a direct command to bring Juuso back, the teacher's way of referring to Juuso's location in her last turn (line 21) implies that Riina and Mira should bring Juuso back.

In this episode, students without SEN attempt to control the work of the student with SEN by editing his slide in a high-handed way on the virtual platform. Similar attempts were evident on other occasions as well and broke the previous agreement on the division of work and individual responsibilities of each group member. From the videotape, it is not clear what Juuso has written in his slides, but when the teacher reads (line 20) and comments on it (line 21), it is clear that it is appropriate for the pedagogical task. However, Riina and Mira assume the epistemic, deontic and moral superiority in their peer group by managing Juuso's contribution. The episode also shows that all parties lack collaborative decision-making skills when encountering this kind of epistemic conflict. Perhaps for this reason, the conflict also appeared in a different light to the group members: When Riina and Mira only hinted that Juuso's contribution was unusable for their presentation without verbalising the exact reasons for their view, Juuso interpreted this as a deliberately damaging act and sought to protect his work through denials and threats. In this case, the teacher was recruited to help to reconcile the situation. The

teacher did not give directives on how to solve the situation, but she supported Juuso's position as a contributor to the group, although not Juuso's problematic behaviour.

Discussion

This study investigated how the misalignment between students with and without SEN was achieved during collaborative group work and how the students with SEN responded to their positioning as unequal learning partners. The study offers insights regarding how the students constructed the exclusion from the collaboration turn by turn, without following typical politeness norms and hidden from the teachers. These insights highlight the need to guide students in collaboration in authentic and immediate interaction situations, not only in formal lessons.

In this study, students with SEN became misaligned, although they made relevant on-task initiations and contributed to the ongoing activity. The social exclusion was not only manifested verbally through dos and don'ts but also through the use of gestures, gaze avoidance or bodily distancing. In addition, students without SEN invalidated the contributions of students with SEN, manipulated their learning materials or downgraded their status when recruiting help. The results also demonstrated that, when possible, spatial affordances (e.g. who sits next to whom and who remains separate from the others) were used as a means by which students drew boundaries between one another and potentially enhanced or restricted other students' participation. For example, students' ability to move freely in the space allowed them to show their unwillingness to continue the collaboration by leaving the unpleasant situation as an agentic act.

Contrary to previous studies (de Leeuw, de Boer, and Minnaert 2019; Le, Janssen, and Wubbels 2018), as a response to becoming misaligned, the students with SEN in this study not only resorted to the use of avoidance approaches but also positioned themselves as full agents and exhibited active group membership through various collaborative efforts. This appeared in how they persistently oriented toward collaborative working by initiating joint activities through proposals (extract 1), negotiating their task performance by offering help, suggestions and announcements (extract 2) or struggling to ensure their right to contribute to the common task (extract 3). However, the agency of students with SEN did not lead to expressions of solidarity or attempts to form common understandings between group members, which would have been key to successful collaboration (see Kim 2019; Zubiri-Esnaola et al. 2020).

Misalignment of the initiations and contributions of students with SEN might occur for different reasons. First, in some situations, the orientations of the students with and without SEN to situational and behavioural norms seemed to be somewhat incompatible. The situational norms were especially related to timing, that is, estimations of when it was the right time to make new proposals or to transfer from one task or part of it to the next task. In addition, the behavioural norms referred to the rules on appropriate behaviour or expressions in peer groups, the breaking of which has been reported to increase the probability of being excluded from peer groups (see e.g. de Boer, Pijl, and Minnaert 2012; Juvonen et al. 2019; van Mieghem et al. 2020). Second, the results demonstrated the significance of epistemic status in collaborative work, consistent with past research (Dell'Anna, Pellegrini, and Janes 2021; Laninga-Wijnen et al. 2019; Pinto,

Baines, and Bakopoulou 2019), for example, who is positioned as a more knowledgeable student and thus has the right to lead epistemic work, claim his or her knowledge and highlight other students' lack of knowledge during the group work. In this study, students without SEN claimed higher epistemic positions in terms of what was regarded as appropriate content or the order of presenting the content in the group tasks. This was apparent in how they attempted to lead the group work through one-way directives instead of presenting proposals or suggestions (see also Kämäräinen et al. 2020).

Students' orientation to the relational knowledge of students with SEN might be partly regulated by their shared history and categorisation of students based on their SEN status instead of engaging in situational negotiation (see also Riese, Samara, and Lillejord 2012). This could be due to the fact that the students with SEN studied separated from the mainstream classroom in certain lessons, and therefore this kind of ability grouping may promote students' awareness of ability hierarchies and epistemic imbalances and cause them to make conclusions regarding the poorer skills or lack of knowledge of students with SEN. This interpretation is supported by earlier research results, which showed that students may want to hide their status as students with SEN if possible or resist attending mainstream classrooms due to a fear of the negative attitudes and expectations of other students (Correia, Forlin, and Sio 2022; Riitaola, Helakorpi, and Holm 2019).

The evidence from this study confirms the conclusions of previous research (Kaendler et al. 2015; Webb et al. 2008), according to which all students need to have more guidance on how to create an efficient learning community in which every member of the group has an equal right to contribute and be heard. In this study, in accordance with the recommendations on collaborative learning (e.g. Forslund Frykedal and Hammar Chiriak 2018), the authority was still delegated to students, but collaboration was not observed regularly by class and special education teachers. Thus, the epistemic conflicts and students' strategies for solving them remained hidden from the teachers. Furthermore, since students with SEN were hampered from contributing equally to the collaboration, the results suggest that the students without SEN lacked collaborative skills to realise symmetrical group work, such as claiming or checking understanding (Kim 2019), making proposals instead of dos and don'ts (Kämäräinen et al. 2020) or negotiating meanings (Kim 2019). Therefore, these students also need supervision on how to manage and regulate collaborative group work inclusively.

Limitations

There are some limitations of this study. First, this study only focussed on misaligned turns between students with and without SEN and did not address successful examples of social inclusion in collaborative group work, although there were such examples in our data. Thus, the illustration of the challenges related to collaborative group working in heterogeneous small groups does not mean that they are inevitable consequences of collaboration in mixed-ability peer groups or that forming heterogeneous peer groups should be avoided in classrooms. Second, our own roles as researchers who are committed to making inclusive education work might have biased us to see peer interaction practices in the data that appeared unsuccessful and would require teacher intervention. However, we attempted to avoid this potential bias by basing the analysis on authentic video-recordings and leaning on CA, which seeks to uncover and respect participants'

orientations toward the interaction by examining how prior talk is treated and interpreted by the participants themselves in subsequent turns (Schegloff and Sacks 1973). Third, it was beyond the scope of this study to represent students' voice in the episodes reported in the study; thus, their accounts of their ways of acting remain unknown. However, while this case study analysis does not aim at generalising the results to all spontaneous activities of this type, it highlights the need for a more nuanced understanding of how children carry out collaborative interaction and the critical incidents that require teacher intervention. This is crucial since, if students' experiences of collaborative learning in mixed-ability peers groups are negative, there is a risk that it will influence the attitudes of both students with and without SEN towards each other.

Recommendations

This study showed acts of misalignment during collaboration between students, which were unobserved by teachers. The results suggest that teachers play a significant role in creating conducive conditions for collaborative group work. First, as suggested in other studies (Forslund Frykedal and Hammar Chiriac 2018; Zubiri-Esnaola et al. 2020), the results emphasise that when planning collaborative work, it is important to prepare assignments, tasks and projects that require positive interdependence between group members so that the instructions do not allow working alone or marginalisation by peers, which were seen in this study.

Second, it is important to be conscious of the significance of various material resources and facilities for optimal collaboration. For instance, this study demonstrated the importance of positioning classroom furniture (tables, chairs, sofas) so that it enables equal access to interaction between group members as well as the same visibility for every student. An extra challenge is related to virtual environments. On one hand, they may create possibilities for students to show different technological competences that are hidden in other learning environments. On the other hand, in the worst case, shared virtual drives also enable new forms of control, such as editing or removing the production of some group members without permission. In all these cases, inclusive teachers have a responsibility to regularly observe peer learning processes, reactively intervene when needed and proactively teach teamwork and perspective-taking skills to students. In light of the results of this study, it appeared the students might have benefitted from more explicit and individual teacher supervision in structuring the task and organising the roles in the collaborative work. Students could also be reminded that important goals of group work include shared activities and working towards consensus instead of merely focussing on achieving certain material outcomes of the learning task.

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Appendix 1. Transcription conventions

(0.5)	The numbers in brackets indicate a time gap in tenths of a second.
(.)	A dot enclosed in brackets indicates a micropause of less than two-tenths of a second.
<u>Underscore</u>	Underscore indicates an emphasis placed on the underscored sound.
Bold	Words in bold indicate heavy emphasis or shouting.
-	This means an abrupt break from speech.
=	The equals sign at the end of one utterance and the beginning of the next utterance mark indicates an absolute contiguity between utterances.
.hhh	This indicates upward breathing.
:	Colons indicate the stretching of a sound.
(())	Double brackets in italics indicate unspoken actions or the analyst's comment
* creaky*	Asterisks indicate the speech is in a creaky voice.